Burn Studies

USSR

UDC 617-001.17-031.81-07:616.155.1-07

MURAZYAN, R. I., Doctor of Medical Sciences, and IL'YUKHIN, A. V., Candidate of Medical Sciences Central Institute of Hematology and Blood Transfusion

"Destruction of Erythrocytes After Extensive Burns"

Moscow, Klinicheskaya Meditsinia, No 6, 1971, pp 44-49

Abstract: Radioactive chromium studies of 23 persons suffering from burns covering up to 51% or more of the body surface showed that the number of erythrocytes destroyed during the first 3 days was directly related to the extent of the lesion. The loss was greatest during the first 24 hours, after which it gradually decreased. For example, in persons with burns covering 10 to 20% of the body area, the loss of RBC was 8.5% the first day, 14.83% the first and second days, and 20.66% during the first 3 days (or 3.5 times more than in the control). In persons with burns covering 21 to 50% of the body area, the loss of RBC was 4.9 times more than in the control. The rate of destruction of RBC in labeled whole blood transfused to six burn patients was found to be the same as that of the patients' own RBC.

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1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--MINERAL COMPOSITION OF BOTTOM SEDIMENTS FROM THE ROMANCHE TRENCH -U-

AUTHOR-(02)-SOLDATOV, A.V., MURDMAA, I.O.

COUNTRY OF INFO--USSR

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 3, PP 488-495

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SUBMARINE TRENCH, BEDROCK, OCEAN BOTTOM PHOTOGRAPHY, BOTTOM SEDIMENT, SEDIMENTATION, MINERAL/(U)AKADEMIK KURTSHATOV SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1854 STEP NO--UR/0213/70/010/003/0488/0495

CIRC ACCESSION NO--AP0129214

UNCLASSIFIED

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2/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0129214

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MINERAL COMPOSITION OF SANDY ALEURITIC FRACTIONS OF RECENT CLASTIC (RIFTOGENOUS) SEDIMENTS AND CONSOLIDATED SEDIMENTS SAMPLED FROM THE BOTTOM OF THE ROMANCHE TRENCH ON THE 1ST CRUISE OF THE R,V AKEDEMIK KURCHATOV WAS STUDIED. THE SEDIMENTS AND BEDROCK FRAGMENTS (ULTRABASITE, GABBROIDE, DIABASE) ARE FOUND TO HAVE SIMILAR MINERAL COMPOSITION. BASED ON THIS SIMILARITY, ONE HAVE EVERY REASON TO REGARD THE MINERAL COMPLEX OF SEDIMENTS AS THE DERIVATIVE OF BEDROCK FROM THE SLOPES OF THE TRENCH FORMED AS A RESULT OF THEIR UNDERWATER DENUDATION AND ACCOMPANIED BY TECTONIC CRUSHING. THE SAME MINERAL COMPLEX WAS FOUND IN FRAGMENTS OF OLDER CONSOLIDATED SEDIMENTS. THIS FACT MAKES POSSIBLE A SUPPOSITION OF THE LONG EXISTENCE IN THE ROMANCHE TRENCH OF SEDIMENTATION CONDITIONS SIMILAR TO THE RECENT ONES. FACILITY: INSTITUT OKEANOLOGII IM. P. P. SHIRSHOVA AN SSSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ALKALINE AUGITITIC LAVAS FROM THE FLOOR OF THE PACIFIC OCEAN,
ALKALINE AUGITITIC LAVAS FROM PACIFIC OCEAN FLOOR -U-
AUTHOR-(02)-PROKOPTSEV, N.G., MUROMAA, I.O.

COUNTRY OF INFO--USSR, PACIFIC OCEAN

SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 2, 1970, PP
446-448
DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND
MARINE ENGR
TOPIC TAGS--OCEAN BOTTOM SAMPLING, LAVA/(U)VITYAZ OCEANOGRAPHIC SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0272 STEP NO--UR/0020/70/191/002/0446/0448

CIRC ACCESSION NO--AT0108575
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0108575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SAMPLES OF UNUSUAL NONFELDSPATHIC ULTRABASIC EXTRUSIVE ROCKS WHICH IN COMPOSITION CAN BE REGARDED AS AUGITITES WERE COLLECTED DURING THE 43D VOYAGE OF THE RESEARCH VESSEL "VITYAZ'" IN 1968 SOUTH OF THE COOK ISLANDS FRAGMENTS OF AUGITITIC LAVAS CONSTITUTE THE NUCLEI OF MANGANESE NODULES. NODULES WITH NUCLEI OF AUGITITIC LAVAS WERE COLLECTED AT DEPTHS OF 4.5-5 KM IN THE NORTHERN PART OF THE SOUTHERN BASIN OF THE PACIFIC OCEAN IN A REGION WITH HIGHLY DISSECTED HILLY RELIEF OF THE OCEAN FLOOR. THE FRAGMENTS WERE EITHER ON THE SURFACE OF ZEOLITIC CLAYS OR ON EXPOSED SLOPES AND TOPS OF LOW SUBMARINE RIDGES, PROBABLY OF VOLCANIC ORIGIN (MINIMUM DEPTH OVER THE PEAKS 4-4.5 KM). FINDS OF THESE AUGITITIC LAVAS WERE FOUND HUNDREDS OF KILOMETERS APART. THE LAVA FRAGMENTS HAVE AN ISOMETRIC ANGULAR FORM; THEY USUALLY DO NOT EXCEED 3-5 CM IN DIAMETER. SMALL FRAGMENTS OF LAVAS OF AUGITITIC COMPOSITION WERE ENCOUNTERED IN PALAGONITIC TUFFS. THE AUGITITIC LAVAS HAVE BEEN MODIFIED TO DIFFERENT DEGREES BY SECONDARY PROCESSES OF UNDERWATER "WEATHERING" AND PALAGONITIZATION. IN ALL CASES THEY HAVE A VESICULAR TEXTURE, ALTHOUGH SOME SLAGLIKE FRAGMENTS ARE FOUND. ROUNDED BUBBLES 1-2 TO 4-6 MM IN DIAMETER CONSTITUTE FROM 10-20 TO 50-60PERCENT OF THE ROCK VOLUME. TO A GREATER OR LESSER DEGREE THEY ARE FILLED WITH A MICROAGGREGATE OF ZEOLITES. THE AUGITITIC LAVAS CONSIST PRIMARILY OF TITANOAUGITE WITH A SECONDARY QUANTITY OF TITANOMAGNETITE AND OLIVINE. THESE ALKALINE AUGITITIC LAVAS OF UNDERWATER ERUPTIONS ARE SPATIALLY ASSOCIATED WITH ALKALINE OLIVINE BASALTS.

UNCLASSIFIED

USSR

UDC 535.34.083.2:538.56

BONDAREVSKIY, S. I., MURIN, A. N., and SEREGIN, P. P., Leningrad State University, Department of Radiochemistry, Institute of Semiconductors, USSR Academy of Sciences

"The Mössbauer Effect in the Study of the Chemical Effects of Nuclear Transformations"

Moscow, Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

Abstract: Up to now, stabilization of recoil atoms has been studied largely by observing solutions of irradiated samples. While useful in such immediate practical concerns as isotope enrichment, this method does nothing to advance the study of recoil atoms within solid bodies, since no definite conclusions can be reached on the relative effects exerted by the process of solution. The authors review important studies touching on this problem written during the sixties and through 1970; and summarize what is known of the Mössbauer effect as the basis for a new method of solid-state research.

A summary of basic facts, definitions and conceptions concerning the Mössbauer effect is given first. This is followed by the first main section of the survey, in which are considered the effects which K-capture, isomeric

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BONDAREVSKIY, S. I., et al., Uspekhi Khimii, Vol XL, No 1, Jan 1971, pp 95-116

transition and β-decay have on the forms which stabilization of the Mössbauer may assume; lifetimes of metastable Mössbauer atoms and stabilization forms are discussed in detail. The second main section deals with the processes of energy loss from recoil atoms in solid bodies; here are considered, first, the application of the "Mössbauer method" to such energy losses in both metallic and nonmetallic targets, particularly iron and its compounds, and, second, present-day concepts of such energy losses. The third section is an analysis of the present status of the "solid-solution" problem, with stress on the recent (1969-1970) contributions of Soviet investigators.

The authors conclude that the Mössbauer (nuclear gamma-resonance) method is a highly significant new tool for solid-state physics which offers the following advantages: 1) unified and exactly reproducible radiation conditions, not obtainable in solution-based methods, 2) very wide range of observation temperatures up to about 1,000°K, and 3) observation times ranging from 10^{-7} down to 10^{-9} sec sufficiently short to avoid the effects of annealing phenomena, which are often intense at ordinary temperatures. The 151-item bibliography includes about 25 works of Soviet origin.
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1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--MOESSBAUER STUDY OF THE AFTER EFFECTS OF NUCLEAR REACTIONS IN SOLIDS -U-

AUTHOR-(03)-MURIN, A.N., BONDAREVSKIY, S.I., SEREGIN, P.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1095-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MOSSBAUER EFFECT, NEUTRON IRRADIATION, PHOTON EMISSION, TIN OXIDE, INELASTIC SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1625 STEP NO--UR/0181/70/012/004/1095/1098

CIRC ACCESSION NO--AP0133532

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 029

CIRC ACCESSION NO--AP0133532

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE MOESSBAUER METHOD STUDY WAS CARRIED OUT OF CONSEQUENCES OF THE REACTION ZN,GAMMA] IN SNO IN THE CONDITIONS OF REACTOR IRRADN. THE RESULTS OF THE EXPT. ARE USED IN THE DISCUSSION OF THE MECHANISM OF STABILIZATION OF RECOIL ATOMS IN A SOLID. IN THE COURSE OF NUCLEAR REACTIONS CHARACTERIZED BY A HIGH ENERGY OF RECOIL THE MOESSBAUER METHOD SHOWS THAT A CONSIDERABLE NO. OF RECOIL ATOMS ARE RETAINED IN THE LATTICE POINTS. THIS IS EXPLAINED BY DEVIATION OF THE CORRELATION BETWEEN IMPULSE AND THE RECOIL ENERGY.

FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 021

TITLE--RELATIVE YIELD OF XENON ISOTOPES DURING THE IRRADIATION OF BARIUM BY 680 MEV PROTONS -U-

AUTHOR-(03)-LEVSKIY, L.K., MURIN, A.N., YUTLANDOV, I.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 409-10

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--XENON ISOTOPE, BARIUM, IRRADIATION, SYNCHROCYCLOTRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1422 STEP NO--UR/0186/70/012/002/0409/0410

CIRC ACCESSION NO--AP0133374

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133374

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIVE YIELD OF XE ISOTOPES FORMED BY SYNCHROCYCLOTRON BOMBARDMENT OF BACL SUB2 WITH 680-MEV P FOR 10 HR IS GIVEN FROM MASS SPECTROMETER MEASUREMENTS (PRIME130 XE EQUALS 1) AS 0.48-0.94 FOR PRIME124 XE, 1.33-1.34 FOR PRIME126 XE, 1.64-1.66 FOR PRIME128 XE, 1.64-1.67 FOR PRIME129 XE, 1.69-1.74 FOR PRIME131 XE, AND 0.82-0.84 FOR PRIME132 XE.

UNCLASSIFIED

USSR

UDC 662-531.7

BONDAREV, B. I., MURIN, B. P., and SOLOV'YEV, L. YU.

"The Operational Effectiveness of a System for Suppressing Coherent Phase Vibrations"

Pribory i Tekh Eksper, No 4, 1971, pp 29-31

Abstract: The authors modeled the longitudinal motion of protons in a linear accelerator on a computer; they used the Monte-Carlo method to investigate change in the phase volume produced by errors in preparing and assembling the accelerating structure and by fluctuations in the accelerating fields. They showed that the effective phase volume of a bunch can be decreased by using the system for suppressing the coherent vibrations of particles. Their results confirmed that such a system can be used in linear proton accelerators to solve at least two problems. The first problem occurs in high-energy accelerators where in order for the particles to reach a certain energy (approximately 100 MeV) the authors suggest converting to a smaller wavelength for the accelerating field; in such a case the suppression system allowed them to decrease the effective phase width of the bunch at the input to the short-wave part of the accelerator, to improve the conditions for capture of the particles, and to diminish their losses. The second problem

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BONDAREV, B. I., et al., Pribory i Tekh Eksper, No 4, 1971, pp 29-31

involves using this suppression system at the output of the linear accelerators for the purpose of improving the energy spectrum of the beam. The article contains 2 figures and 2 bibliographic entries.

UDC 539.1:621.3.082

USSR

KUROCHKIN, S. S., KISELEV, L. G., and MURIN, I. D.

"Vector System of Instruments and Units for Nuclear Electronics"

Tr. Coyuz. NII priborostr. (Transactions of the All-Union Scientific Research Institute of Instrument Building) Vyp 18, 1972, pp 90-103 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.1479)

Translation: The features of the "Vector" system of instruments and units for nuclear electronics of the third generation are examined. High-precision microcomponents and discrete elements, of precision printed circuitry are the basis of the "Vector" system. According to the principles of construction, the logic functions, norms for signals and junctions of the "Vector" system are similar to the foreign systems CAMAC and NIM, however, the system is designed on the basis of native standards and completed articles. The features of the system connected with this and accepted norms of projection are considered. The structure of the system and the basic characteristics of its instruments and units are analyzed. (3 illustrations, 10 bibliographic entries, resume)

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USSR

MURINA, T. A., CHERENKOVA, L. V., and CHIVELEVA, I. M., Ukhtomskiy Institute of Physiology and Leningrad University

"Relationship Between the Time of Visual Discrimination in Cats and the Signal-Noise Ratio"

Moscow, Biofizika, No 4, 1973, pp 766-777

Abstract: Cats were trained to discriminate between a star and a circle flashed on a screen against a background of noise in the form of various geometric figures. At a signal noise ratio of 6.5 the cats could not discriminate between the images when they were exposed for 250 msec. However, further lowering of the noise level to a signal-noise ratio of 13 did not reduce the critical time. The curve plotted from the experimental data proved to be exponential. Analysis of the curve reveals that a healthy cat requires at least 300 msec to discriminate between practically noise-free images, or about the same amount of time required by man.

UDC 621.365.82

USSR

ALEKSANDROV, V. I., MURINA, T. M., ZhEKOV, F. I., and TATARINTsEV, V. M.

"Induced Radiation of Tu^{3+}, Ho^{3+} in Crystals of Zircon Dioxide"

Kratkiye soobshch. po fiz (Brief Communications on Physics), No 2, 1973, pp 17-21 RZh-Fizika, No 9, Sep 73, Abstract No 9D726

Translation: The absorption, luminescence and induced ratiation spectra of two kinds of crystals are studied -- $ZrO_2:Tu^{3+}$ (1% by weight), $ZrO_2:Ho^{3+}$ (1% by weight) -- both with 20% Er_2O_3 by weight. The wave length of oscillation for Ho^{3+} was 2.115 microns, for Tu^{3+} -- 1.896 microns. The lifetime of radiation levels was measured with T=77°K and 300°K. It was found that zirconates activated by Ho^{3+} and Tu^{3+} have oscillation thresholds intermediate between YAG or $YAlO_3$ and glasses. Eleven bibliographic citations. S.A.K.

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USSR

ASNIN, V. M., ZUBOV, B. V., MURINA, T. M., PROKHOROV, A. M., ROGACHEV, A. A., and SABLINA, N. I., Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Radiative Recombination of Biexcitons in Germanium"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 737-745

Abstract: The article describes results of a study undertaken to obtain additional data on the nature of the long-wave recombination radiation line in germanium, as well as to determine the binding energy of biexcitons. Some preliminary findings were published in previous articles by the authors. Experiments were performed on samples of pure n- and p-type germanium with a total impurity center concentration on the order of $5 \cdot 10^{12}$ cm^{-3}. Two methods of excitation were used: viz., surface and volume. Data were obtained at T = 4.2° K in a wide range of excitation level variations showing the dependence of the intensity of an exciton line with a quantum energy $h\nu$ = 0.713 ev on the intensity of a biexciton line with $h\nu$ = 0.708 ev. A quadratic

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ASNIN, V. M., et al., Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 62, No 2, Feb 72, pp 737-745

dependence is observed up to concentrations $n_b \approx 3 \cdot 10^{14}$ cm^{-3}, while at higher excitation levels there is a linear dependence, which can be explained by the effect of nonequilibrium phonons produced when the excitons are bound into biexcitons. The energies E_b (dissociation energy of an exciton molecule) and ΔE ("recoil" energy which a biexciton receives during phonon emission) were found to be 3.6-3.8 Mev and 2.0-2.2 Mev respectively. The energy of the phonon produced during formation of the biexciton is 1.6 Mev. The experimental results prove the biexciton nature of the 0.708 ev line in germanium. Regarding the shape of this line and its energy position, it is suggested that there is a recombination process in which annihilation of one exciton is accompanied by acceleration of another as a whole.

The authors thank L. V. KELDYSH and S. M. RYVKIN for a useful discussion of a number of questions touched upon in the article.

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UDC 621.383.5.001.5

USSR

YEGOROV, V.S., Candidate Of Technical Sciences; ZAYTSEVA, A.K., Candidate Of Technical Sciences; MURKINA, M.V., Engineer; SHUL'MEYSTER, L.F., Candidate Of Technical Sciences

"Device For Determination Of The Current-Voltage Characteristic Of A Photoelectric Converter"

Elektrotekhnika, No 2, Feb 1972, pp 44-46

Abstract: Methods are considered for determining the reverse saturation current I_o and the parameter A in the working region of the current-voltage characteristic of silicon photoelectric energy converters. The principles of operation and the units of a functional scheme are described. The scheme contains a logarithmic amplifier, storage devices, division unit, selective cells, converter of log I_o into I_o, digital presentation unit, and a commutator. The device developed makes it possible to determine the parameters A and I_o of photoelectric converters with an area from 1 to 4 cm^2 in the intervals A = 1 - 5, $I_o = 1 \cdot 10^{-8} \div 1 \cdot 10^{-4}$ a. The measurement error is not more than 5 percent and the measurement time does not exceed 10 sec. 4 fig. 4 ref.

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UNCLASSIFIED PROCESSING DATE--18SEP70

172 1 021

TITLE--INSTABILITY OF MAGNETOSTATIC WAVES IN FERROMAGNETS -U-

AUTHOR-(02)-VASHKOVSKIY, A.V., MURMUZHEV, B.A.

M

COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(4), 215-19

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--FERROMAGNET, FERRITE, ELECTROMAGNETIC WAVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0779 STEP NO--UR/0386/70/011/004/0215/0219

CIRC ACCESSION NO--AP0104225
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 021
CIRC ACCESSION NO--AP0104225
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXPTL. STUDY WAS MADE OF THE EMISSION FROM PARAMETRICALLY EXCITED VOL. AND SURFACE MAGNETOSTATIC WAVES FOR TANGENTIALLY MAGNETIZED SINGLE CRYSTAL DISKS OF FERRITES DURING PARALLEL PUMPING. THE THRESHOLD CURVES AND THE EMISSION ZONES ARE SHOWN GRAPHICALLY. THE SURFACE WAVES ARE UNSTABLE OVER A WIDE RANGE OF MAGNETIZING FIELDS. THE EMISSION OF THE VOL. WAVES TAKES PLACE IN A FIXED MAGNETIZING FIELD (VERY NARROW EMISSION BAND). AN ANAL. OF THE DEPENDENCE OF THE EMISSION POWER ON THE PUMPING POWER INDICATES THAT THE ESTABLISHMENT OF THE AMPLITUDE OF THE MAGNETOSTATIC WAVE IS NOT RELATED TO THE EXCITATION OF AUTOMODULATION VIBRATIONS. THE EMISSION TAKES PLACE "DIRECTLY" AND NOT BECAUSE OF SCATTER EFFECTS.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

1/2 029

TITLE--SPECTRAL PROPERTIES AND PHOTOSENSITIVITY OF ISOSTRUCTURAL AMINOINDENES -U-

AUTHOR-(04)-GAILIS, A., MURNIECE, D., SILIN, E., FREIMANIS, J.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER. 1970, (1), 9-17

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ELECTRON SPECTRUM, PHOTOSENSITIVITY, AMINE, AROMATIC KETONE, BENZENE DERIVATIVE, ORGANIC SULFUR COMPOUND, GOLD COMPOUND, PHOTOELECTRIC PROPERTY, VIBRATION SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0680 STEP NO--UR/0371/70/000/001/0009/0017

CIRC ACCESSION NO--AP0119588

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 029
CIRC ACCESSION NO--AP0119588
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRONIC AND VIBRATIONAL ABSORPTION SPECTRA OF THE 2 ISOSTRUCTURAL AMINOINDENES 3,PHENYLAMINO,2,PHENYLINDEN,1,ONE (R-O) AND 3,PHENYLAMINO,2,PHENYLINDENE,1,THIONE (R-S) IN SOLID STATE AND IN SOLN. HAVE BEEN INVESTIGATED. THE ENERGY OF INTRAMOL. H BOND HAS BEEN EVALUATED: FOR (R-O) THE VALUE OF DELTAH EQUALS 2.66 CAL-MOLE, FOR (R-O) 2.42 CAL-MOLE. SOME PHOTOELEC. PROPERTIES OF THIN LAYER SYSTEMS AU-(R-O)-AU AND AU-(R-S)-AU HAVE BEEN INVESTIGATED. THE PHOTOSENSITIVITY OF (R-S) EXCEEDS THAT OF (R-O) BY 2-3 ORDERS. POSSIBLE INFLUENCE OF THE SUBSTITUTED ATOMS IN ISOSTRUCTURAL COMPDS. ON THEIR PHOTOSENSITIVITY HAS BEEN SUGGESTED. FACILITY: FIZ.-ENERG. INST., RIGA, USSR.

UNCLASSIFIED

UDC 551.510:621.378.9

USSR

MURO, E. L.

"Optimal Processing of the Signal of Reverse Light Diffusion in Determination of the Structure of Atmospheric Formations"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 1, Jan 72, pp 21-24

Abstract: The method of reverse light diffusion with a laser signal is used for studying atmosphere transparency and the structure of atmospheric formations. In this paper, an analysis is made of the influence of the component of error in determination of the diffusion index, which originates as a result of the action of noise upon the circuit that processes the signal of reverse light diffusion. The algorithm of signal processing is compiled for obtaining a quasi-optimal evaluation of the diffusion index. Values of displacement and dispersion of the quasi-optimal evaluation are found, and the degree of closeness of the quasi-optimal evaluation to the optimal one is determined. An expression is obtained, which links the relative error to the signal-to-noise ratio in the processing circuit. One figure, 3 references.

USSR

UDC 621.039.5/6

LEYPUNSKIY, A. I., YUROVA, L. N., BOBROV, S. B., MUROGOV, V. M., TOCHENYY, L. V., TROYANOV, M. F., and SHMELEV, A. N.

"Improving the Physical Characteristics of Fast Plutonium Reactors by Using U^{233} and Thorium"

Moscow, Atomnaya Energiya, Vol 30, No 6, Jun 71, pp 491-498

Abstract: Investigations carried out on the physics of fast reactors, both in the USSR and abroad, have shown the requirements for a high breeding time and safety guarantee may be contradictory. This article seeks to find ways for resolving these contradictions.

The authors first discuss the basic physical characteristics of fast reactors using a mixed fuel by equalizing the field of heat release. Computations showed that in a fast reactor using a mixed fuel composed of U^{233} and plutonium the radial coefficient of inbalance can be reduced, the breeding ratio increases significantly, and the doubling time is improved. Table 1 compares the characteristic of different types of high-power fast reactors.

The authors then discuss changing the profile of the heat release

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LEYPUNSKIY, A. I., et al., Atomnaya Energiya, Vol 30, No 6, Jun 71, pp 491-498

field during the operating period of a high-power fast reactor using a mixed fuel and give Figure 1 as illustration. They then discuss change in the reactance during the same period for such a reactor, using Figures 2, 3, and 4 for graphic visualization. Finally, they discuss the Doppler and sodium coefficients of reactance in such a reactor and use Figure 5 and Table 2 to clarify the discussions. Based on their research the authors claim that the possibility does exist for increasing the power strength and breeding time of the fuel with the simultaneous assurance of safety for a fast reactor using a sodium heat carrier; this is possible by using U^{233} and thorium in conjunction with U^{238} and plutonium in high-power fast reactors.

The article contains 5 figures, 2 tables, and a bibliography of 15 titles.

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USSR

UDC 621.039

BOBROV, S. B., MUROGOV, V. M., TOCHENYY, L. V., and SHMELEV, A. N.

"High-Power Fast Reactor With a Stable Heat Release Field Throughout a Run"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No. 2, Moscow, Atomizdat, 1970, pp 129-135 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V535)

Translation: Computational studies of a fast power reactor with an electric power of 1000 Mw with Na coolant in which radial balancing of the heat release field is achieved by the use of different types of fuel in the core are presented: in the inner portion PuO_2-UO_2 with an average density of 8 g/cm^3 and in the outer portion the alloy Pu-U-Zr (12%) with a Pu-U density of 15.1 g/cm^3. The calculations were made with the 18-RZ-4-B program considering the change in the isotope composition with time. The results show that fuel productivity improves in this reactor as compared with a purely oxide version (the average conversion coefficient in the core is ~1) and the change in reactivity over the run also decreases (by a factor of 4) and does not exceed 0.3%. The coefficient of nonuniformity and the heat release profile throughout the run are almost constant and less in

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USSR

BOBROV, S. B., et al, Fiz. yadern. reaktorov, No. 2, Moscow, Atomizdat, 1970, pp 129-135

absolute value than for the purely oxide version. It is also shown that maximum burn-up achievable simultaneously for both forms of fuel (~10% for oxide and ~5% for metallic fuel) corresponds to the permissible burning depths, so that a simple method of simultaneous recharging of the entire core can be applied for this reactor. V. P. Demin.

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USSR

UDC 621.039

BOBROV, S. E., MUROGOV, V. M., TOCHENYY, L. V., and SIMELEV, A. N.

"Possibility of the Stabilization of the Heat Release Field in Fast Power Reactors Operating in a Mixed Fuel Cycle"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 121-128 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V536)

Translation: The physical characteristics are calculated for a fast reactor that is optimal with respect to breeding, with a heat capacity of 2500 Mw on mixed fuel (U^{233}, Pu^{239}, U^{238}, Th) and profiling of the heat release field by developing zones of different enrichment with the preservation of a fixed amount of fuel by volume in the core. Calculations of the heat release field were made for reactors of the BN-1000 type in zones of different enrichment, taking into consideration changes in the isotope composition of the fuel and changes in the neutron spectrum and flux during the run (with the 18-RZ-4-B program). It was found that balancing of the heat release with a change in enrichment of the mixed fuel makes it possible to reduce the radial coefficient of nonuniformity (from 1.8 to 1.2), increase the breeding coefficient

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USSR

KOBROV, S. B., et al, Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No. 2, Moscow, Atomizdat, 1970, pp 121-128 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V536)

(from 1.3 to 1.5), and also to reduce the doubling time (from 11-12 to ~7 years). The change in the heat release profile in the course of a run of a fast reactor on mixed fuel is determined by the relationship of the zone breeding coefficients and the difference in the fission cross sections of the burned and accumulated isotopes. V. P. Demin.

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UDC: 621.396.67:624.97(088.8)

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USSR

SOKOLOV, A. Ye., USANOV, A. P., SHAPIRO, A. Z., D'YACHKOV, V. K., KUTYAYKIN, V. Ya., MUROKH, G. L., NARYSHKOV, V. M.

"A Device for Suspending the Radiating Element of Rotating Antennas"

USSR Author's Certificate No 262198, filed 20 May 68, published 3 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B77 P)

Translation: This Author's Certificate introduces a device for suspending the radiating element of rotating antennas. The device contains a girder designed for fastening the radiating element, this girder being fastened to the reflector or antenna array by rod supports equipped with hinges. In order to reduce the effect which deformations of the elastic elements have on the electrical parameters of the antenna, the girder is connected to the rod supports through bearings, and to the reflector or antenna array through auxiliary guys, the lines which connect the points of fastening of these guys to the reflector or antenna array and to the girder forming a parallelogram. Two illustrations. Resumé.

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UDC 621.396.67:624.074

USSR

SOKOLOV, A. Ye., USANOV, A. P., SHAPIRO, A. Z., D'YACHKOV, V. K., KUTYAYKIN, V. A. MUROKH, G. L., NARYSHKOV, V. M.

"A Device for Suspension of the Primary Radiating Element of Rotating Antennas"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 41, patent No 262198, filed 20 May 68

Abstract: This Author's Certificate introduces a device for suspension of the primary radiating element of a rotating antenna. The unit contains a girder designed for holding the radiating element. This girder is fastened to the reflector or antenna array by means of rod supports equipped with hinges. As a distinguishing feature of the patent, the effect which deformations of the elastic elements in the device have on the electrical properties of the antenna is reduced by connecting the girder to the rod supports by means of bearings, and connecting it to the reflector or antenna array by means of additional guys. The connection lines of the points of fastening of the guys to the reflector or antenna array and to the girder form parallelograms.

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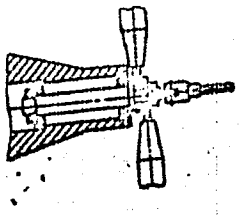
USSR

SOKOLOV, A. Ye., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 41, patent No 262198, filed 20 May 68



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1/2 006 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DEVELOPMENT OF OCEANOGRAPHIC INVESTIGATIONS IN THE USSR -U-

AUTHOR--MUROMTSEV, A.M.

M

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA GIDROLOGIYA, 1970, NR 4, PP 102-111

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--OCEANOGRAPHIC R AND D, OCEANOGRAPHIC DATA, OCEANOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1020 STEP NO--UR/0050/70/000/004/0102/0111

CIRC ACCESSION NO--AP0104418

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0104418

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BACKGROUND OF DEVELOPMENT AND PRINCIPAL RESULTS OF OCEANOGRAPHIC INVESTIGATIONS IN THE USSR ARE STATED IN THE ARTICLE.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 028

TITLE--ELIMINATING DEFICIENCES IN SHRPS 62 EQUIPMENT -U-

AUTHOR--MUROMTSEV, B.V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMATIKA, AELEMEKHANIKA I SVYAZ, NO 2, 1970, PP 27-28

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--RADIO EQUIPMENT, RADIO COMMUNICATION SYSTEM, SEMICONDUCTOR DIODE, ELECTRONIC CIRCUIT, RELIABILITY/(U)SHRPS 62 RADIO EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0600 STEP NO--UR/0223/70/000/002/0027/0028

CIRC ACCESSION NO--AP0132760

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132760

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELIMINATION OF INTERFERENCE IN THE SHRPS62 RADIO EQUIPMENT IS DESCRIBED. THIS EQUIPMENT IS BEING USED AT THE KIROVSK DISTRICT OF THE TRAIN RADIO COMMUNICATION NETWORK. THE MODIFICATION INCLUDES ELIMINATION OF CERTAIN DIODES AND CHANGING THE CONNECTIONS IN THE CIRCUIT. THE MODIFICATIONS IMPROVED THE OPERATION AND RELIABILITY OF THE EQUIPMENT.

UNCLASSIFIED

USSR

UDC 631.42:546.18

MUROMTSEV, G. S. and UGODINA, T. S., All-Union Institute of Agricultural Microbiology

"Isolation of Soil Microorganisms That Mobilize Organophosphorus Compounds"

Moscow, Doklady Vsesoyuznoy Akademii Sel'skokhozyuystrennykh Nauk, No 5, 1973, pp 9-11

Abstract: A direct method is proposed for isolating microorganisms that dissolve phytin, a soil organophosphate. The microorganisms are isolated on a medium containing 1 liter of tap water, 10 g of glucose, 1 g of asparagine, 0.2 g of $MgSO_4$, 0.2 g of K_2SO_4, 20 g of agar, and 0.02% corn extract. Phytin is added to the medium, which is plated on agar and then incubated for 48 hours at 37°. Clear zones appear around some colonies, an indication that phytin has been dissolved.

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UDC 63:576.8

USSR

MUROMTSEV, G. S., DERZHINSKIY, A. R., KURAKHTANOVA, T. I., DUBOVAYA, L. P., and RUDAKOV, O. L., All Union Scientific Research Institute of Phytopathology, Bol'shiye Vyazemy, Moscow Oblast

"Deep Cultivation and Antibiotic Activity of the Mycoparasite Darluca filum"

Moscow, Sel'skokhozyaystvennaya Biologiya, Vol 5, No 4, 1970, pp 579-582

Abstract: When grown in deep culture, the imperfect fungus Darluca filum (Biv-Bern) Cast., a hyperparasite of rust fungi, can synthesize at least four intracellular fungicidal antibiotics. The fungus grows on solid and liquid media with certain combinations of nitrogen and carbon sources, the most favorable being those with soybean meal (or corn extract), and glucose starch. In deep culture, D. filum synthesizes antibiotics that suppress the growth of yeasts and mycelial fungi of the genera Alternaria, Beauveria, Botrytis, Cephalosporium, Cladosporium, Cryptococcus, Endothia, Fusarium, Glíocladium, Hansenula, Helminthosporium, Kabatiella, Monilia, Hematospora, Neurospora, Oospora, Penicillium, Pestalotia, Piricularia, Pichia, Pullularia, Rhizopus, Trichoderma, Verticillium, Torulaspora, Schwanniomyces, Debaryomyces, Endomyces, Candida, and Saccharomyces. Media containing glucose and peptone or

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USSR

MUROMTSEV, G. S., Sel'skokhozyaystvennaya Biologiya, Vol 5, No 4, 1970, PP 579-582

soybean meal, combined with various carbon sources, are best for synthesizing the antibiotics.

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UDC: 669.15-155:620.178.162

USSR

GOVOROV, A. A., REPINA, L. D., and MUROMTSEVA, V. N.

"Influence of Ball Hardening on the Wear-Resistance of Type-30KhGT Nitrocemented Steel"

Izv. VUZ, Chernaya Metallurgiya, No 6, 1970, pp 117-119

Abstract: Ball working of nitrocemented specimens of 30KhGT steel under a pressure of 75-200 kg increases wear resistance under conditions of dry rolling friction. If there are large carbonitrides in the strucutre, this treatment decreases wear resistance. Roughness of the surface is significantly improved by this treatment. Five illustrations; four biblio. refs.

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1/2 042 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF INTENSIVE NOISE AND NEUROPSYCHIC TENSION ON THE LEVEL OF ARTERIAL PRESSURE AND EXTENT OF HYPERTENSIVE VASCULAR DISEASE -U-
AUTHOR-(02)-SHATALOV, N.N., MUROV, M.A.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, NR 3, PP 70-73

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ACOUSTIC NOISE, NEUROPSYCHIATRY, PRESSURE, BLOOD PRESSURE, HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1375 STEP NO--UR/0497/70/000/003/0070/0073

CIRC ACCESSION NO--AP0136731

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 042

CIRC ACCESSION NO--AP0136731

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE GROUPS OF PERSONS SUBJECTED EITHER TO HIGH INTENSITY NOISE (1275 MACHINISTS), OR TO NEUROPSYCHIC TENSION (1172 SCIENTISTS), OR TO BOTH (339 ENGINE TESTING MECHANICS) WERE STUDIED TO ESTABLISH THE EFFECT OF EITHER OR BOTH OF THE ABOVE FACTORS ON THE STATE OF ARTERIAL PRESSURE. THE STUDY SHOWED THAT IN PERSONS WORKING UNDER THE CONDITIONS OF NOISE OR TENSION THE LEVEL OF THE ARTERIAL PRESSURE AND INCIDENCE OF HYPERTENSIVE DISEASE RISE. THE EXTENT OF HYPERTENSIVE VASCULAR DISEASE IN WORKERS OF SO CALLED "NOISY OCCUPATIONS" IS SIMILAR TO THAT OF SCIENTISTS OF SIMILAR AGE GROUPS. THE COMBINED EFFECT OF NOISE AND NEUROPSYCHIC TENSION PROVED TO BE GREATER THAN THAT OF INDIVIDUAL FACTORS, INCREASING THE INCIDENCE OF HYPERTENSIVE VASCULAR DISEASE CONSIDERABLY. THE DATA OBTAINED AS A RESULT OF OBSERVATION OF THE ABOVE THREE GROUPS WERE COMPARED WITH THE DATA RECEIVED FOR A CONTROL GROUP, I.E., A GROUP OF LABORATORY WORKERS AND OTHER SKILLED WORKERS NOT SUBJECTED TO EITHER NOISE OR NEUROPSYCHIC TENSION. THE RESULTS OF SUCH COMPARISON, PRESENTED IN TABULAR FORM, INDICATE THAT FOR BOTH MALES AND FEMALES OF ALL AGE GROUPS, THE ARTERIAL PRESSURE AND THE INCIDENCE OF HYPERTENSIVE DISEASE WAS LOWER IN THE CONTROL GROUP THAN IN ANY OF THE ABOVE THREE GROUPS.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--USE OF AN INDICATOR METHOD FOR DETERMINING THE DEPTH OF DIFFUSION OF INORGANIC ACIDS IN POLYMER FILMS -U-

AUTHOR-(03)-MUROV, V.A., SHEVCHENKO, A.A., KLINOV, I.YA.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 62-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC FILM, DYE, CHEMICAL INDICATOR, EPOXY RESIN, FLUID DIFFUSION, SULFURIC ACID, NITRIC ACID, HYDROCHLORIC ACID/(U)ED5 EPOXY RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/B07 STEP NO--UR/0303/70/000/002/0062/0064

CIRC ACCESSION NO--AP0140246

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TROPEOLIN OO OR METHYL RED DYES WERE ADDED TO LIQ. EPOXY RESIN ED-5 IN ALC. OR ACETONE SOLN. THE ADDN. OF POLYETHYLENE POLYAMINE (A AHRDENER) TO THE SOLN. AND DRYING ON GALSS SLIDES GAVE FILMS. THE DIFFUSION RATES OF HCL, NHO SUB3, OR H SUB2 SO SUB4 SOLNS. INTO THE FILMS WERE DETD. IN 20-70DEGREES INTERVAL BY THE IMMERSION OF THE FILMS IN SOLNS. OF VARIOUS CONCNS. FOR A KNOWN TIME, MAKING MICROTOME SLICES PARALLEL TO THE SURFACE, AND DETG. THEIR COLOR UNDER A MICROSCOPE. THE DIFFUSION OF H SUB2 SO SUB4 AND HCL SOLNS. INTO ED 5 IS LINEAR, BUT THE DIFFUSION OF HNO SUB3 IS NOT DUE TO THE DEGRADATION OF THE POLYMER.

UNCLASSIFIED

USSR UDC 620.17:669.14.018.44:621.78.061

KLYKOVA, R. S., MUROVANNAYA, S. G., and MARMER, E. N., All-Union Scientific Research Institute of Electric Heating Equipment

"Properties of Heat-Resistant Steels After Vacuum Heat Treatment"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 62-65

Abstract: The effect of vacuum heat treatment on 2Kh13, 1Kh11MF and EI893 heat-resisting alloys was investigated with the alloys heated at different temperatures for different time intervals and at pressures of 10^{-2} and 10^{-3} mm Hg. After heat treatment the samples were checked for change of purity class, presence of an oxide film, microstructure, and depth of defective layer. Mechanical properties were also determined. Some samples were heat-treated in argon and nitrogen. It was found that vacuum heating at the mentioned pressures does not change the microrelief of the surface and provides the required surface finish (class 7). Heating and cooling at a high temperature provides a bright surface. After heating and hardening, the depth of the surface layer depleted by alloying elements is less than or equal to 50-60 microns. Heating at a pressure of 10^{-3} mm Hg in modes of tempering and aging does not cause additional change in the surface condition and the formation of a depleted layer. The study of mechanical

USSR

KLYKOVA, R. S., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 62-65

properties of vacuum heat-treated samples showed that vacuum treatment, ensuring degassing of the alloys, does not lower strength and increases their ductility. 4 figures, 3 tables, 2 bibliographic references.

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MURAVICH, V.I.

36: JPRS 56610
25 JULY 1973

(3)

EFFECT OF A FILLER ON THE STRENGTH CHARACTERISTICS OF THERMOSTRUCTURAL POLYMERS

UDC 678:539.4.019.3

[Article by V. I. Murovich, V. I. Volkomorov, V. I. Murovich, Leningrad Mechanics Institute; Mekh. Polimerov, Riga, Mekhanika Polimerov, Russian, No 1, 1973, submitted 16 November 1971, pp 97-101]

A study was made of the effect of a filler on the tensile strength characteristics of polymers. The thermostructural stresses occurring in the composite during its compaction are taken into account. The relations are presented which define the strength of the filled polymer as a function of the percentage content of filler. During the process of analyzing the thermostructural stresses, the analytical relation was obtained for the coefficient of linear expansion of the composite considering the structural distribution of its components. The calculated values are presented for the strength and thermostructural stresses for composites with different filler content. The theoretical definition of the strength of filled polymers is compared with the presented experimental studies of the composites based on epoxy resin filled with powdered quartz. There are three illustrations and a ten-entry bibliography.

The problem of discovering the contribution of a filler to the strength characteristics of a composite material plays an important role in the problems connected with studying the effect of the filler on the properties of the composite polymers.

In reference [1], a study was made of various theories of the strengthening effect of fillers. At the same time, it is impossible not to agree with the opinion of the authors [2], who considered that the term "strengthening" is expediently used when characterizing the specific property of the filler-binder ratio. Actually, as is demonstrated in [3], the same filler with different ratio to the binder can "strengthen" or "weaken" certain composition characteristics.

For materials reinforced with fiberglass, the mathematical apparatus has been developed which permits determination of their mechanical properties by

the component properties. An estimate of the contribution to the properties of the composite material by the disperse fillers such as powdered quartz has basically been made experimentally [2-4].

In this paper an effort has been made to discover the mechanism of the operation of filled polymers under tension. In order to solve the stated problem, the approach developed as applied to the determination of the tensile strength of the fiberglass reinforced polymers normal to the fibers is used. The justifiability of this approach can be explained by the identity of the stressed states of the compared materials and the contribution of the filler and reinforcing to the strength characteristics of the composite materials.

The strength of the composite materials must be estimated considering the stresses arising during their manufacture which are basically thermostructural [5]. The problem of the thermostructural stresses, that is, the stresses arising as a result of a difference in the coefficients of linear expansion of the filler and the binder on cooling of the composition material from the concealing temperature to the operating temperature for reinforced plastics found reflection in references (6-8).

In the given paper, an estimate is made of the magnitude of the thermostructural stresses as a function of the percentage content of filler and binder, and their effect on the strength characteristics of the composition materials is determined.

In the mathematical model (Figure 1) adopted in this paper, the assumption is made of regularity of the system of arrangement of the filler particles. It is based on analyzing the photographs of the microsections, for example, in [2] and the insignificant difference in characteristics for regular and arbitrary arrangement of the reinforcing fibers in the fiberglass [6].

Figure 1. Adopted scheme for the filler particle distribution in the binder.

UDC 661.185.1

USSR

ASHIMOV, M. A., MUSALOVA, M. A., SADYKH-ZADE, S. I., and AKHMEDOV, G. G., Sumgait Branch INKhT, Acad. Sc., AzerbSSR

"Study of the Utilization of Biodegradable Alkylarylsulfonate INKhP-9 as an Emulsifier During Production of Butadiene-nitrile Rubber"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 1 (73), 1971, pp 64-66

Abstract: The copolymerization of butadiene and acrylonitrile was studied as a function of the amount of a new biodegradable emulsifier INKhP-9 used and of the reaction time. INKhP-9 is the sodium salt of a mixture of 75-78% of mono-, 15-18% of the di- and 4-10% of the trialkylaranesulfonic acids obtained by alkylation of benzene with normal- α-olefines containing 6-14 carbon atoms in presence of $AlCl_3$ or H_2SO_4. Increasing the amount of INKhP-9 from 2.2 parts by weight·hr to 3.8 and 4.2 results in 82, 77, and 65% copolymerization in 8 hrs respectively. However, the latex obtained with the lowest level of INKhP-9 is not stable. The higher concentrations of INKhP-9 give a sufficiently rapid process and a stable latex product which compares favorably with the commercially produced rubber SKN-26.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--USE OF BORON, ZINC, MANGANESE, AND MOLYBDENUM FERTILIZERS UNDER IRRIGATED SUGAR BEETS ON DARK CHESTNUT SOILS OF SARATOV ZAVOLZHE -U-

AUTHOR-(02)-CHUB, M.P., MURSANOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA 1970, (2), 111-17

DATE PUBLISHED-------70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE CROP, SUCROSE, MINERAL FERTILIZER, BORON, ZINC, MANGANESE, MOLYBDENUM, AGRICULTURE CROP YIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0510 STEP NO--UR/0485/70/000/002/0111/0117

CIRC ACCESSION NO--AP0134278

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LARGEST BEET AND SUGAR YIELDS WERE OBTAINED AFTER ZN AND B FERTILIZING. THE APPLICATION OF B, MN, AND ZN DECREASES THE CONTENT OF NONALBUMIN-N IN THE BEETS. FACILITY: NAUCH.-ISSLED. INST. SEL. KHOZ. YUGO-VOSTOKA, SARATOV, USSR.

UNCLASSIFIED

USSR

UDC 621.374.324:621.382.32

MURSAYEV, A. Kh., and Ugryumov, Ye. P.

"Analogue Store Using MIS Transistors"

V sb. Elektronnaya tekhnika v avtomatike (Electronics Techniques In Automation--Collection Of Works), Moscow, Izd-vo "Sovetskoye Radio," No 2, 1971, pp 27-34

Abstract: An analogue store is described in which an increase of the precision and the storage time of voltage in the capacity is attained by the use of metal-insulator-semiconductor (MIS) transistors. The processes of recording and storage of the voltage are analyzed, with the form of the current-voltage characteristics of MIS transistors and their parameters taken into account. The results are presented of an experimental check of an analogue store using MIS transistors. Functional and detailed circuits are shown of a closed store. Almost all the indices of the circuit described exceed data known from the literature. All the elements of the circuit with the exception of the store capacity can be fulfilled in an integrated version.

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USSR

UDC 681.325.65

MURSAYEV, A.Kh., UGRYUMOV, Ye.P.

"A Transistor Switch"

USSR Author's Certificate No. 271570, Field 28/04/69, Published 15/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B180P).

Translation: Transistor switch dynamic control circuits in which the source of the control signal contains a transformer are known. However, circuits with transformers cannot be made as integrated circuits. The purpose of this suggestion is to eliminate this shortcoming. The transistor switch suggested differs from known switches in that the dynamic control unit contains a periodic HF voltage generator controlled by an internal signal with a paraphase output, to which the control electrodes of the switch transistors are connected through a rectifier and filter. 3 figs.

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USSR UDC 548.535

LERINMAN, R. M., MURSAYEVA, G. V., NIKANOROV, M. A., and KHVOSTYNTSEV, K. I., Institute of Physics of Metals, Academy of Sciences USSR

"Influence of Plastic Deformation and Alloying With Slight Amounts of Interstitial Elements on Decomposition of the Metastable β Phase in TC6 Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 3, Mar, 71, pp 626-633

Abstract: Electron microscopy and determination of the mechanical properties are used to study TS6 alloy with various contents of interstitial impurities in various initital states. It is demonstrated that after rolling and aging, the alloy reaches its maximum strength properties with briefer aging and considerably smaller dimensions of α phase segregations than after ordinary aging. The density of residual dislocations in the alloy following rolling and aging is still near the density of dislocations in the deformed state with these types of treatment. With low

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USSR

LERINMAN, R. M., et al., Fizika Metallov i Metallovedeniye, Vol 31, No 3, Mar 71, pp 626-633

degrees of deformation, a high combination of mechanical properties can be achieved only in the case of the initial polygonized state. The influence of an increased content of interstitial impurities with rolling and aging on the kinetics of decomposition of the β phase is significantly weaker than in the case of ordinary aging.

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USSR

UDC 632.95

PUSHKAREVA, Z. V., MURSHTEYN, M. K., and STEPANOVA, L. A.

"Synthesis and Use of 9-Cyanoethyl Derivatives of Carbazole and Some of Their Conversion Products"

Sb. nauch. tr. po khimii Sverdl. in-t nar. kh-va (Collection of Scientific Works on Chemistry of Sverdlovsk Institute of the National economy), Sverdlovsk, 1971, pp 74-79 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N499 by N. B. Vsevolozhskaya)

Translation: 9-Cyanoethylcarbazole (I), its nitro and amino derivatives, as well as their conversion products possess fungicidal properties. Saponification of I in a mixture of a 20-percent aqueous solution of KOH and ethyl alcohol on boiling for 4-6 hours gives 9-(β-carboxy)-ethylcarbazole (II), yield 80%, melting point 171-3° (60% ethyl alcohol+AcOh). Nitration of II with a mixture of HNO_3 and AcOH gives 3,6-dinitro-9-(β-carboxy)-ethylcarbazole (III), yield, 80%, melting point 295° (dioxane). In nitration of 3-NH_2-II the yield of III is 85%. Saponification of the 3-amino derivative of I is performed in a mixture of 40% KOH and ethyl alcohol, yield of 3-NH_2-II 61.5%, melting point 223°. Boiling of II in $SOCl_2$ gives the acid chloride of II, melting point 40°; the action of $POCl_3$ and PCl_5 on III gives the acid chloride

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UCSR

PUSHKAREVA, Z. V., et al., Sb. nauch. tr. po Khimii Sverdl. in-t nar. Kh-va Sverdlovsk, 1971, pp 74-79

of III, melting point ~ 300°. 3,6-$(NO_2)_2$-I is specially active against Fusarium, II has a stimulating effect on the growth of dicotyledons; I and III are used to control root rot.

2/2

USSR

UDC: 681.327.66

BARANOV, V. S., MURUSIDZE, T. A., Tbilisi Scientific Research Institute of Instrument Building and Means of Automation

"A Semipermanent Memory Matrix"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 20, Jul 72, Author's Certificate No 343303, Division G, filed 5 Oct 70, published 22 Jun 72, p 175

Translation: This Author's Certificate introduces a semipermanent memory matrix which contains a system of wires with open magnetic cores located at their intersection points and fastened to the base of the matrix. The matrix also contains an elastic plate carrying an elastic fabric on its lower surface on which magnetic bridges are arranged above the magnetic cores. Also incorporated in the matrix is a punched card with perforations located above the crossed wires on the base of the matrix. As a distinguishing feature of the patent, information recording density is increased by adding a plate of nonmagnetic material with perforations coinciding with the wire intersections. This additional plate is placed between the elastic plate and the punched card.

1/1

MURTAZAYEV, Kh.M.

EXAMINATION OF VESSELS IN WIDE CASE (pp. 27-29)
OF CLOSED BLUNT TRAUMA TO THE
LOWER EXTREMITIES

By Docent Kh. M. Murtazayev

Frequently damages to the big vessels of the lower extremities when the bones and skin remain intact are not detected on time. At the same time, determining the nature of vessel damage may be of decisive significance in the choice of the corresponding method of treatment and the outcome of the trauma. We studied damages of major vessels in lower extremities in 103 human corpses aged between three and a half and 89 years, whose death had followed either on the place of the accident under the impact of a blunt instrument (blow, traffic accident, fall from a certain height) or two-six days following the trauma. In 15 of the cases the vessels were stricken by arterial sclerosis; in 90 cases insignificant abrasions, ecchymosis or contusion wounds were found at the extremities; no damages were detected in 23 of the cases. The vascular damages were studied directly on the corpses macroscopically with a MBS-2 stereomicroscope and a BM-51-2 binocular microscope. To this effect the lower extremity was opened longitudinally. The damaged vessels were removed up to the impact area and fixated after which the histological preparations were made. In 15 cases arteriorentgenographic studies were made. All in all we studied damages to major vessels in 153 lower extremities.

The complex study enabled us to detect the following vascular changes:

1. Narrowing of the arteries due to their spastic contraction (1). In the big arteries (femoral, popliteal), it was expressed in a small section (0.9-13.2 centimeters); in the smaller and longer arteries (shins), along their entire length. This phenomenon has been described in publications as arterialospasm.

2. Vascular compression by hematoma. If the hematoma was within the vagina vasorum, usually it was thicker or limited and accompanied by a considerable vascular compression, and even total occlusion. Such hematomas appeared in damages to the big vessels. More emphatic and brittle hematomas resulting in an insignificant compression of the vessels, a neurovascular nodule, were located outside the vagina.

3. Separation of the big vessels from the surrounding tissue, over a longer or shorter distance.

Military Medical Journal #2
Aug 70

Acc. Nr: AP0044857 Ref. Code: UR 0531

PRIMARY SOURCE: Khirurgiya, 1970, Nr 1, pp 66-69

CLOSED INJURY OF LARGE VESSELS OF THE LOWER EXTREMITIES

Murtazayev, Kh. M.

On cadavers the author studied injuries of large vessels of the extremities (lower — 262, upper — 38) in blunt trauma. Complex investigation (macroscopic, stereomicroscopic, histological and arterioroentgenographic) enabled to reveal changes of two sorts: 1) partial or complete disturbance of the vascular patency, caused by compression by hematoma, bone fragments, strangulation of vessels in cracks of bones, intramural hematomas, as well as arteriospasm; 2) injuries accompanied by disturbance of the continuity of the tunica or complete transverse laceration of vessels. At the site of pathology the injuries of vessels are more extensive than at a distance.

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REEL/FRAME
19771712

3

USSR UDC: 681.3.06:51

GANEYEV, D. G., GIGLAVYY, A. V., KANDALOVA, N. S., MURTAZI, R. F., MUKHINA, V. N., NEPOCHATYKH, D. P., SURINOVA, R. V.

"An Operational System Oriented for Use in the ASUP Management Systems for ASVT Computer Systems Models"

Tr. N.-i. i proyektn. in-ta po vnedreniyu vychisl. tekhn. v nar. kh-vo (Works of the Scientific Research and Design Institute on Introducing Computer Technology Into the National Economy), 1970, vyp. 5, pp 36-44 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V837)

Translation: The paper describes the fundamental principles which lie at the base of development of a small operational system designed for use in the development and operation of ASUP automated systems for management of enterprises with production of discrete type based on an aggregatized system of computer facilities (ASVT). An ASVT mnemocode with a set of macrocommands is used as the programming language in the proposed operational system. The principal functions, make-up and working singularities of the operational system are presented. V. Mikheyev.

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UDC: 681.3.06:51

USSR

GIGLAVYY, A. V., MURTAZI, R. F.

"On the Problem of Developing an Operational System Oriented Toward Use in the ASUP System"

Tr. N.-i. i proyektn. in-ta po vnedreniyu vychisl. tekhn. v nar. kh-vo (Works of the Scientific Research and Design Institute on Introducing Computer Technology Into the National Economy), 1970, vyp. 5, pp 12-35 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V595)

[No abstract]

UDC: 681.3.06:51

USSR

MURTAZI, R. F.

"Organizing the Control of Assignments in the ASUP Operational System"

Tr. N.-i. i proyektn. in-ta po vnedreniyu vychisl. tekhn. v nar. kh-vo (Works of the Scientific Research and Design Institute on Introducing Computer Technology into the National Economy), 1970, vyp. 5, pp 60-68 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V594)

[No abstract]

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1/2 046 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--VIBRATIONS OF A CRYSTAL LATTICE WITH AN INTERSTITIAL ATOM -U-

AUTHOR--MURTAZIN, I.A.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, GEB, 1970, 29, (2), 225-234

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--CRYSTAL LATTICE VIBRATION, FERROMAGNETIC MATERIAL, IR ABSORPTION, MOSSBAUER EFFECT, CRYSTAL IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1826 STEP NO--UR/0126/70/029/002/0225/0234

CIRC ACCESSION NO--AP0129194
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 046

CIRC ACCESSION NO--AP0129194

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORY OF THE VIBRATIONS OF THE CRYSTAL LATTICE IN A FERROMAGNETIC METAL CONTG. INTERSTITIAL ATOMS IS PRESENTED, ASSUMING THAT THE SYMMETRY OF THE ATOMS IN THE ORIGINAL IDEAL MATRIX IS NOT DISTRUBED APPRECIABLY BY THE INTRODUCTION OF ATOMS INTO THE INTERSTICES. EXPERSSIONS ARE DERIVED FOR THE OPTICAL PROPERTIES (PARTICULARLY THE INFRA RED ABSORPTION) OF SUCH A METAL AND ALSO FOR THE MOSSBAUER EFFECT ASSOCIATED WITH THE INTRODUCTION OF THE INTERSTITIAL ATOMS.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 018

TITLE--NECROSIS OF RENAL PAPILLIN CHILDREN -U-

AUTHOR-(02)-MURVANIDZE, D.D., KAPANADZE, G.I.

COUNTRY OF INFO--USSR

SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 7-12

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY, GENITOURINARY SYSTEM DISEASE, STONE, NECROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/2057 STEP NO--UR/0606/70/000/003/0007/0012

CIRC ACCESSION NO--AP0120700
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT7

2/2 018

CIRC ACCESSION NO--AP0120700

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NECROSIS OF THE RENAL PAPILLI IS NOT UNCOMMON IN CHILDREN. IT IS MOSTLY A COMPLICATION OF ACUTE PYELONEPHRITIS. NEPHROLITHIASIS MAY SERVE AS A COMPLICATION OF NECROSI OF THE RENAL PAPILLI, IT IS CAUSED BY OBSTRUCTION OF RENAL TRACTS BY A STONE. A POSSIBILITY OF NECROSIS OF THE RENAL PAPILLI SHOULD BE KEPT I MIND IN THE PRESENSCE OF HEMATURIA WITH RENAL INSUFFICIENCY AND FEVER I CHILDREN. FACILITY: DETSKOYE OTD. INSTITUTA UROLOGII IM. A. P. TSULUKIDZE MINISTERSTVA ZDRAVOOKHRANENIYE GRUZINSKOY SSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LET US BUILD DIRIGIBLES -U-

AUTHOR-(02)-MURYCHEV, V., MASYUTIN, V.

COUNTRY OF INFO--USSR

SOURCE--KOMSOMOL, SKAYA PRAVDA, AUGUST 15, 1960, P 4, COLS 1-6

DATE PUBLISHED--15AUG70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, AERONAUTICS

TOPIC TAGS--PERSONALITY, UNCONVENTIONAL AIRCRAFT, AIRCRAFT DESIGN/(U)TMS100 DIRIGIBLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1914 STEP NO--UR/9007/70/000/000/0004/0004

CIRC ACCESSION NO--AN0125507

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0125507

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TWO ARTICLES UNDER THE SAME TITLE ARE DESIGNED TO PROMOTE DIRIGIBLE CONSTRUCTION IN THE SOVIET UNION. TO SUPPORT HIS VIEWPOINT, MURYCHEV GIVES THE ACCOUNT OF FLIGHT TESTS OF A 12 METER RADIO CONTROLLED MODEL OF THE 100 TON TSM-100 DIRIGIBLE MADE OF 40 MICRON THICK DURAL ALLOY. THE TSM-100 DOES NOT NEED BALLAST, CAN LAND AT WILL AT ANY POINT ON THE GROUND, AND CAN FLY AT SPEEDS UP TO 210 KMS PER HOUR. ITS FLIGHT RANGE IS 23,000 KMS. BOTH AUTHORS WOULD LIKE TO SEE A MORE ACTIVE SUPPORT ON THE PART OF THE GOVERNMENT FOR THE DIRIGIBLE CONSTRUCTION PROGRAM. FACILITY: CHIEF DESIGNER AND DIRECTOR OF THE LENINGRAD CIVIC DIRIGIBLE DESIGN BUREAU IMENI TSIOLKOVSKIY. FACILITY: CHIEF ARCHITECT OF THE TSNIIEPGRAZHDANSEL'STROY.

UNCLASSIFIED

AN0032615

UR9025

TITLE-- CAPTION

NEWSPAPER-- TRUD, MARCH 24, 1970, P 2, COLS 1-3

ABSTRACT-- A 12-METER WORKING MODEL OF THE "SSSR-TSM-100" DIRIGIBLE HAS PASSED ITS TESTS IN LENINGRAD. THE DIRIGIBLE WITH A 100-TON LOAD CAPACITY HAS BEEN DESIGNED BY THE CIVIC DESIGN BUREAU OF DIRIGIBLE CONSTRUCTION IMENI TSIOLKOVSKIY OF THE GEOGRAPHIC SOCIETY OF THE SOVIET ACADEMY OF SCIENCES, WITH THE COOPERATION OF THE "ORGTEKHSTROY" TRUST OF THE GLAVZAPSTROY IN THE MINISTRY OF CONSTRUCTION, U.S.S.R. CHIEF DESIGNER OF THE PROJECT IS V. B. MURYCHEV.

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19700920

USSR

UDC 621.382.2

BEKMURATOV, M.F., DUSHKIN, V.A., MURYGIN, V.I. [Moscow Institute Of Electronics Techniques]

"Current Variations In Diode Structures Made Of High-Resistance Gallium Arsenide Compensated By Titanium"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 632-634

Abstract: Some results are presented of a study of noise and periodic current variations in S-diode structures of gallium arsenide with an admixture of titanium at the parts of the voltampere characteristic with positive differential resistance. The material for production of the specimen, grown by the Czochralski method, was of two types: p-type with resistivity on the order of $\rho = 10^2$ ohm.cm and a higher resistance n-type material with a resistance $\rho = 10^6$ ohm.cm. The conditions of formation and the character of the noise variations depended on the magnitude of the resistivity of the starting material and the form of the voltamphere characteristic of the device. With specimens produced from a material with a resistivity close to intrinsic and with a significant voltage drop in the region of negative resistance, noise variations were observed in the frequency band up to 15 MHz with an integral amplitude of 100-200 mv. (The measurements were conducted with the S 4-8 spectrum analyzer and a V3-13 voltmeter.)

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USSR

BEKMURATOV, M.F., et al, Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 632-634

The frequency of the fundamental harmonic of the periodic current variations was found in the limits of from several megahertz up to tens of megahertz (up to 40 ÷ 50 MHz for individual specimens). The dependence of the frequency on the current flowing through the device was nonmonotonic. 3 fig. 6 ref. Received by editors, 28 June 1971.

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USSR UDC 621.382.322

AYRAPETYANTS, S.V., KOMAROVSKIKH, K.F., MURYGIN, V.I., OSPELOV, V.V., STAFEYEV, V.I.

"Field Effect Transistor"

USSR Author's Certificate No 263750, filed 4 Dec 68, published 15 June 70 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B422P)

Translation: A field effect transistor is proposed which contains one p-n junction and an insulated gate electrode, with the p-n junction located perpendicular to the gate electrode, and the length of the base more than twice the diffusion length of the minority charge carriers. The transistor has a region of negative resistance in the volt-ampere characteristic (S-type).

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1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--INJECTION CONDUCTIVITY IN COMPENSATED SEMICONDUCTORS WITH IMPURITY SCATTERING -U-

AUTHOR-(05)-GRIGORYEV, V.K., KAZANTSEV, O.I., MURYGIN, V.I., RUBIN, V.S., STAFEYEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHN. POLUPROV., JAN. 1970, 4, (1), 116-119

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM SEMICONDUCTOR, GALLIUM ARSENIDE SEMICONDUCTOR, ELECTRIC PROPERTY, SEMICONDUCTOR IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0992 STEP NO--UR/0449/70/004/001/0116/0119

CIRC ACCESSION NO--AP0124651

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120018-3"

2/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0124651
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF CARRIER INJECTION OF THE V-A CHARACTERISTICS AND GENERAL ELECTRICAL PROPERTIES OF COMPENSATED SEMICONDUCTORS SUCH AS GE AND GAAS INCORPORATING IMPURITY SCATTERING IS DISCUSSED THEORETICALLY. A MECHANISM IS PROPOSED IN ORDER TO EXPLAIN THE CREATION OF A NEGATIVE DIFFERENTIAL RESISTANCE IN THE FORWARD BRANCH OF THE V-A CHARACTERISTIC DUE TO THE CHANGE IN SCREENING RADIUS ARISING FROM THE INJECTION. EXPERIMENTAL RESULTS QUALITATIVELY SUPPORT THE THEORY.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--A FIELD EFFECT TRANSISTOR -U-

AUTHOR--AYRAPETYANTS, S.V., KOMAROVSKIKH, K.F., MURYGIN, V.I., POSPELOV, V.V., STAFEYEV, V.I.

COUNTRY OF INFO--USSR

M

SOURCE--PATENT NO 263750

REFERENCE--MOSCOW, OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NO

DATE PUBLISHED--10FEB70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--PATENT, FIELD EFFECT TRANSISTOR, TRANSISTORIZED CIRCUIT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1098 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112220

UNCLASSIFIED

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120018-3"

2/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70

CIPC ACCESSION NO--AA0112220

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A FIELD EFFECT TRANSISTOR WHICH CONTAINS A PN JUNCTION AND AN ISOLATED GATE ELECTRODE. THE TRANSISTOR DIFFERS BECAUSE TO PRODUCE AN S SHAPED CURRENT VOLTAGE CHARACTERISTIC, THE PN JUNCTION IS ARRANGED PERPENDICULARLY TO THE GATE ELECTRODE, AND THE BASE IS LONGER THAN TWO DIFFUSION LENGTHS FOR THE MINORITY CHARGE CARRIERS.

ZZZZZZZZZZZZ UNCLASSIFIED

USSR

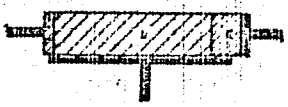
UDC 621.382.33

AYRAPETYANTS, S. V., KOMAROVSKIKH, K. F., MURYGIN, V. I., POSPELOV, V. V., STAFEYEV, V. I.

"A Field-Effect Transistor"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, 10 Feb 70, pp 57-58, Patent No 263750, Filed 4 Dec 68

Translation: This Author's Certificate introduces a field-effect transistor which contains a PN junction and an isolated gate electrode. The transistor differs because to produce an S-shaped current-voltage characteristic, the PN junction is arranged perpendicularly to the gate electrode, and the base is longer than two diffusion lengths for the minority charge carriers.



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USSR

UDC: 621.382.2

KOZLOV, N. P., LEVASHOV, I. P., MURYGIN, V. I., POPOV, L. V., SONDAYEVSKIY, I. A. and STAFEYEV, V. I., Moscow Institute of Electronic Technology

"Some Research in S-Diode Neuristors"

Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1054-1061

Abstract: The neuristors investigated in this article have S-shaped volt-ampere characteristics and are of two types: first, with common anti-cutoff contact and a sectioned p-n junction; second, with common p-n junction and sectioned anti-cutoff contact. The schematics of both types are given. If the diode structures in the circuit are sufficiently far from each other, the switching delay time may be much less than the switching time of an individual element, and the interelement switching time can be neglected. It is shown that when the delay time between the switching of neighboring elements is much greater than the switching time, the dependence of the breakdown voltage on the parameters of the material has only a slight effect on the coupling between the active elements in the neuristor line. The second part of this paper describes experiments performed to verify the theoretical results of the first part. These experiments used neuristors of p-type germanium compensated by gold.

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USSR

UDC: 632.95

MURZA, V. I.

"Sanitary-Hygienic Characteristics in the Use of Insecticidal--Microbic Chemicals to Combat Orchard Pests"

V sb. Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl. (Pesticides -- Safety Measures in Using, Toxicology, and the Poison Clinic--collection of works), vyp. 9, Kiev, 1971, pp 103-108 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7N580)

Translation: No intensification of the pathogenic effect on the organism of laboratory animals was observed when chlorophos and boverine or chlorbenzo and insectine were used simultaneously. For a period of three months the animals were administered with a microbic preparation by inhalation in a dose of 1/5 mg/kg/day (1/50 LD_{50} for the preparation with intratracheal administration. At the same time, the animals were made to drink a solution of chlorophos in a dose of 13.4 mg/kg/day (1/50 LD_{50} for chlorophos taken orally). The activity of cholinesterase of the blood serum was depressed by 11-16% identically in animals given chlorophos with and without insectine. Insectine caused a slight development of eosinophilia, but chlorophos modified this effect of

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USSR

MURZA, V. I., Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl. 1971, pp 103-108

insectine somewhat. Boverine was detected in a concentration of 2-3 mg/cu. m in the breathing area of the tractor operator, which constitutes no health hazard. .P. V. Popov.

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USSR UDC 621.373.531.1(088.8)

MURZA, V. I.

"A Transistorized Symmetric Multivibrator"

USSR Author's Certificate No 255349, Filed 29 Jul 68, Published 18 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10G179 P)

Translation: The author proposes a symmetric multivibrator with voltage-controlled variable duty factor. The controlling voltage source is connected through a resistor to the base of the transistor in one of the branches of the multivibrator. To extend the limits of duty factor control and to increase the slope of the voltage--to-duty factor conversion characteristic, the controlling voltage source is simultaneously connected through a resistor to the collector of the transistor.

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Exobiology

USSR

UDC 577.4

IMSHENETSKIY, A. A., MURZAKOV, B. G., and SUROVOV, V. K., Institute of Microbiology, Academy of Sciences USSR

"Use of the Effect of "Soil Respiration" in the Search for Extraterrestrial Life"

Moscow, Mikrobiologiya, No 6, 1972, pp 1086-1090

Abstract: Experiments were performed with desert soil to determine whether the radioisotopic method (C^{14}-labeled glucose) to detect "soil respiration" is useful in the search for life on Mars. The microorganism Pseudomonas fluorescens or Bacillus subtilis was added to soil moistened with the labeled glucose. "Soil respiration" was not detected when the moisture content was below 4%. The optimum amount for decomposition of the glucose varied from 20 to 30% of the absolute weight of the soil. Dry or excessively wet soil did not release enough $C^{14}O_2$ to be recorded. Since the Martian atmosphere contains only trace amounts of water, the "soil respiration" method could not be successfully used to detect the presence of life on the planet. A more promising approach would be to inoculate Martian soil obtained in a future spaceflight onto a medium containing a radioactive substrate.

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Acc. Nr: AP0047227 Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, 1970, Nr 1, pp 129-133

Murzakov, B. G.; Dragunov, S. S.; Gosgenkov, V. F.

APPLICATION OF THE PYROLYSIS — GAS CHROMATOGRAPHY TO THE INVESTIGATION OF THE CHEMICAL NATURE OF HUMIN ACIDS

Institute Microbiology, Academy of Sciences USSR

A microcell for pyrolysis of humin substances was constructed and suitable conditions for gasous-luquid chromatography were chosen for the study of aromatic components of the molecules of humin acids of chernzem, peat and podzol soils.

Humin acids pyrolysates of the soil investigated for the most part contain similar aromatic compounds.

The results have shown only a quantitative difference in the relative contents of the said compounds.

1/1 REEL/FRAME 19790729 42 2

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--THE EFFECT OF THE ALIGNMENT, LUBRICATION, AND LOCATION OF THE SPINDLE BEARINGS OF A COORDINATE BORING MACHINE UPON MACHINING PRECISION

AUTHOR--MURZAKOV, KH.YE., TABUNSHCHIKOV, M.YA., KLEBANOV, M.K.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 3, 1970, PP 10-12

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--BORING MACHINE, MACHINE TOOL PLANT, METAL MACHINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1567 STEP NO--UR/0121/70/000/003/0010/0012

CIRC ACCESSION NO--AP0114155

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--11SEP70

2/2 015

CIRC ACCESSION NO--AP0114155

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INVESTIGATION OF THREE DESIGN VARIANTS OF THE SPINDLE SUB ASSEMBLY OF A COORDINATE BORING MACHINE WAS MADE AT THE KUYBYSHEV COORDINATE BORING MACHINE PLANT. THE TEST FACILITIES ARE DESCRIBED, AS WELL AS THE EXPERIMENTAL PROCEDURE, AND THE RESULTS OF THE TESTS ARE PRESENTED.

UNCLASSIFIED

USSR

UDC 669.295:539.2:539.214

TRENOGINA, T. L., MURZAYEVA, G. V., LERINMAN, R. M., POTAPENKO, YU. I., and KAGANOVICH, I. N., Institute of Physics of Metals, Academy of Sciences USSR

"Electron-Microscope Study of Structural Changes Occurring Upon High Temperature Thermomechanical Treatment of Titanium Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 6, Dec 73, pp 1242-1252.

Abstract: The microstructural changes occurring in VT15 (beta alloy) and VT9 (alpha plus beta alloy) upon high temperature thermomechanical treatment were studied using the method of transmission electron microscopy. Particular attention was given to the influence of the duration of the pause between the end of deformation and hardening on the microstructure of the alloys. It was established that it is the creation of a polygonized structure which is responsible for the favorable combination of strength and plastic characteristics of these alloys. It is shown that as the duration of the pause between the end of deformation and hardening is increased, the increase in plasticity and decrease in strength observed results primarily from a change in the phase ratio and the dispersion of the phases.

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USSR

UDC 669.295:620.193.91:548.4

LERINMAN, R.M., MURZAYEVA, G.V., NIKANOROV, M.A., and KHVOSTYNTSEV, K.I., Institute of Metal Physics, Academy of Sciences USSR

"Effect of Initial Dislocation Structure and Interstitial Impurity Content on the Microstructure and Properties of Beta-Titanium Alloy TS6 After Aging"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 2, Feb 71, pp 352-357

Abstract: This article is a continuation of works devoted to a study of changes in structure and mechanical properties of TS6 beta-titanium alloy after aging in relation to initial structure and interstitial impurities content. Sheet samples of TS6 alloy of two heats with a differing impurities content were studied. One heat (971) was melted in VEL-3 electrolytic vanadium the other (603) -- in aluminothermic vanadium by electron-beam remelting. Heat 603, in contrast to heat 971, contained 1% Zr. The fine structure and mechanical properties were investigated after heat treating by the following modes: a) quench from 850°C, deformed 40% by rolling and given repeated quenchings from 700, 800, and 900°C (hardened state); b) aging of samples quenched from the above-stated temperatures. Aging was accomplished at 480°C for 2, 10, and 30 hours. In the initial polygonized state particles of the liberated phase, upon aging, were highly dispersed and distributed uniformly, which is the result of alpha-phase particle nucleation into dislocations. In the initial

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002202120018-3"

USSR

LERINMAN, R.M., et al, Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 2, Feb 71, pp 352-357

recrystallized state for pure melting, the low mechanical properties are dependent on the vast nonuniformity of beta-phase decomposition which leads to the formation of local stresses near the particles at the time of deformation. The measured content of interstitial impurities facilitates obtaining a uniform and more dispersed structure after aging and decreases bordering layers made up of the un-decomposed beta-phase. The best properties of alloy TS6 can be obtained in combination with the initial polygonized state and an optimum content of impurities of interstitial atoms (Tensile Strength = 140 kg/mm^2, reduction in area = 6%). 3 figures, 1 table, 9 bibliographical references.

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USSR

UDC 669.29.620.187

MURZAYEVA, G. V., and LERINMAN, R. M., Institute of Metal Physics, Academy of Sciences USSR

"Electron Microscope Study of Metastable Beta-Phase Dissociation in Titanium Alloy TS6"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 4, Apr 70, pp 813-823

Abstract: An investigation was made of the decomposition of the metastable beta-phase in TS6 titanium using transmission electron microscopy and electron diffraction techniques. The effect of plastic deformation on the process of beta-phase aging was also examined.

Sheets of alloy TS6 were alloyed with electrolytic vanadium (VEL-3) giving the following chemical composition (in %): 2.9 Ti, 3.8 Al, 6.6 Mo, 10.6 V, 0.1 Cr, 0.01 Fe, 0.02 Si, 0.008 C, 0.08 N, 0.006 H_2, and O_2 [% of O_2 unknown due to typographical error]. The structure of the aged alloy was investigated after the following modes of heat treatment: a) 40% deformation followed by quenching from 800 and 900°C (recrystallized state) + aging (480°C -- 2, 10, and 30 hours); b) 40% deformation + quenching from 700°C (polygonized state) + aging (480°C -- 2, 10, and 30 hours); c) 40% deformation + quenching from 700, 800, and 900°C + deformation (10, 20, and 40%) + aging (480° C -- 2,10, and 30 hours) -- mechanical-

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thermal treatment (MTT). Strips of the sheets, the cladding layer having been previously polished to a depth of 0.25 mm, were rolled to a thickness of 0.1 mm. Heat treatment of the resulting foil was done in a vacuum furnace (10^{-5} mm Hg) and quenched in water. For inspection in the electron microscope the foils were thinned electrolytically in a mixture of acetic anhydride and perchloric acid with continuous cooling of the bath walls with circulated water. A goniometric table was used in conjunction with the electron microscope to determine Burger's vectors of dislocations.

It was found that particles of the alpha-phase are precipitated in the process of beta-phase decomposition at 480°C. They are lenticular plates elongated along the $\langle 110 \rangle$ direction. In most cases the plane of appearance is the $\{112\}$ plane. Orientation correspondence follows that of Burger's principle. All this holds true for precipitation of the alpha-phase independent of whatever strain preceded their formation. In the alpha-phase particles, a banding contrast of two types was noted. The first type was caused by formation of a band of displacement. The second type was bound to the formation of discontinuity dislocations equalizing the discontinuity of the beta- and alpha-phase crystal lattices. They were absolute screw dislocations.

The surface of the alpha-phase particles had a staggered nature which can be

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explained by splitting the alpha-phase into translation domains during its formation. Alpha-phase particle size, after MTT, is much less than after ordinary aging. This is caused by nucleation of precipitated particles into numerous dislocations, introduced by deformation. However, the surface structure of alpha-phase particles in samples deformed prior to aging, even after a short heating interval, was similar to that in nondeformed samples after lengthy aging and had a cellular character.

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TITLE--ELECTRON MICROSCOPE STUDY OF THE DECOMPOSITION OF A METASTABLE BETA PHASE IN TS6 TITANIUM ALLOY -U-

AUTHOR-(02)-LERINMAN, R.M., MURZAYEVA, G.V.

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE DECOMPOSITION OF A METASTABLE PHASE DURING MECHANICOTHERMAL TREATMENT AND ORDINARY AGING OF TS6 ALLOY AT 480 C, USING TRANSMISSION ELECTRON MICROSCOPY AND ELECTRON DIFFRACTION. THE SHAPE, HABITUS PLANE, GORWTH DIRECTION, AND ORIENTED CORRESPONDENCE TO THE MATRIX OF ALPHA BASE SEGREGATIONS ARE DETERMINED. IT IS ESTABLISHED THAT INCONGRUITY DISLOCATIONS FORM ON THE SURFACES OF THE ALPHA PARTICLES, WHICH COMPENSATE FOR THE INCONGRUITY BETWEEN THE BETA AND ALPHA PHASES. IT IS NOTED THAT THE STRUCTURE OF THE SURFACES OF ALPHA PARTICLES IN SPECIMENS DEFORMED BEFORE AGING DIFFERS FROM THEIR STRUCTURE IN UNDEFORMED SPECIMENS SUBJECTED TO THE SAMG AGING CONDITIONS. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT FIZIKI METALLOV, SVERDLOVSK, USSR.

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UDC 624.131+539.215

MURZENKO, YU. N.

"The Determination of the Sag of an Elastoplastic Foundation Under Band-Shaped Loading"

Novocherkas, Tr. Novocherkas. politekhn. in-ta (Transactions of the Novocherkas Polytechnic Institute), Vol 260, 1972, pp 36-45 (from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4V749 by P. F. Sabodash)

Translation: With a view to determining the bearing capacity of a dense sandy base, the horizontal static problem on the elastoplastic equilibrium of the half-phane $z > 0$, $-\infty < xy < \infty$, loaded at the boundaries z=0 with a normal loading of intensity p(the thickness of the platform is b) and a near-loading of intensity q is solved. The physical properties of the incompressible material of the half plane are determined by the angle of external friction phi and the coefficient of specific coupling c, while the $\sigma \sim \varepsilon$ bonds conform to the relationships of the plasticity theory of A. A. Ul'yushin, in which it is proposed to construct the condition of plasticity (the connection between the stress intensity σ_i and the deformation intensity ε_i) on the basis on experimental data. A function of elastoplastic deformation is proposed as a module of foundation elasticity, which is equal to the derivative $d\bar{\sigma}/d\bar{s}$, where $\bar{\sigma}$ is the 1/2

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mean pressure on the foundation and $\bar{s}$ is the value of the sag.

Using the experimental dependence $\bar{\sigma}=f(\bar{s})$ the author approximates it as a rational function (a ratio of two polynomials) which allows him to establish the dimensions of the plastic zone in the variable plane yz and to give the analytic dependence of the variable on the size of the coefficient of lateral thrust ξ. The numerical results for the auxiliary function, through which the tension components σ_y and σ_z are computed on the axis of symmetry y=0 according to the size of z, and the demonstrated component tensor of the stress condition are presented in a table and by the graphical dependence of the sag of the elastoplastic foundation on the external loading. The following original data were selected for the calculation: the angle of internal friction $\varphi=40^\circ$; the coefficient of coupling c=1.07 ton/m^2; the specific weight of the foundation material $\gamma=1.74$ ton/m^2; the thickness of the die b=0.5m; the depth of the plunging h=0.25; the value of the near-loading $q=\gamma h=0.44$ ton/m^2. The program for solving the elastoplastic problem was realized on a "Minsk-22" computer. (6 bibliographic entries)

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ZEGER, K. Ye., MURZICH, Ye. V., ZELENOV, L. S., PRON'KO, L. A., All-Union Scientific Research Institute of Heat Engineering imeni F. E. Dzerzhinskiy

"A Method of Controlling the 'Fuel-Oxidizer' Ratio"

Author Certificate USSR, Class F 23n 1/02, No 295945, claimed 23.12.68, published 6.04.71 (from Referativnyy Zhurnal, Aviatsionnyye i Raketnyye Dvigateli, No 11, Nov 71, Abstract No 11.34.70 P)

Translation: There is patented a method for regulating the "fuel-oxidizer" ratio in the combustion chamber according to a command signal characterizing a monitored parameter that is linked to the combustion. The method is distinguished by the fact that with the aim of increasing the precision, reliability, and response speed of regulation, use is made, as the command signal, of the temperature of one or several (according to the number of injectors) solid unshielded bodies with a high thermal conductivity, for example, metal bodies, which are placed at the base of the jet in the shear plane of the injector output nozzles. The method is distinguished by the fact that as a solid thermally conductive body, use is made of design elements of the combustion chamber, for example, the injector output nozzle. 1 figure.

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12 022 UNCLASSIFIED PROCESSING DATE--27NOV70

TLE--GAMMA RAY SPECTRA RESULTING FROM THE CAPTURE OF THERMAL NEUTRONS BY ZINC 64, ZINC 66, ZINC 67, AND ZINC 68 -U-

THOR-(05)-BARCHUK, I.F., BAZAVOV, D.A., BELYKH, G.V., GOLYSHKIN, V.I., MURZIN, A.V.

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BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HARD PART OF GAMMA RAY SPECTRA RESULTING FROM THE CAPTURE OF THERMAL N BY PRIME 66, PRIME65, PRIME67, PRIME 67 ZN ISOTOPES WAS STUDIED BY USING A SEMICONDUCTOR GE(LI) DETECTOR. ENERGIES AND INTENSITIES OF GAMMA LINES WITHIN THE GAMMA SPECTRA RANGE MEASURED ARE DETD. TRANSITION SCHEMES ARE COMPILED BASED ON THE DATA OBTAINED. A STRONG DISCREPANCY IS FOUND BETWEEN THE VALUES OF SPECTROSCOPIC FACTORS FOR P LEVELS OBSERVED IN THE REACTION (D,P), AND THE PROBABILITY OF EL TRANSITIONS FROM THE CAPTURE STATE TO THESE LEVELS IN THE (N,GAMMA) REACTION. IN PRIME69 ZN THE MOST INTENSIVE TRANSITIONS FROM THE CAPTURE STATE ARE THOSE TO THE LEVELS WHICH ARE ABSENT IN THE OTHER REACTIONS. FACILITY: INST. FIZ., KIEV, USSR.

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